



Safety data sheet according to 1907/2006/EG, Article 31

Product name: PeroLab INK, MOFF1

Printing date: 13.12.2023

Revision: 30.11.2022

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1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: PeroLab INK, MOFF1
CAS-Number: -
EC-Number: -
Formula: -

REACH-Registration-Number:

A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against.

Identified use: SU24 Scientific research and development
Industry and Laboratory

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Sindlhauser Materials GmbH
Daimlerstraße 68, DE – 87437 Kempten
Mail: safetydata@sindlhauser.de
Phone: +49 (0) 831 / 960458-0
Fax: +49 (0) 831 / 960458-10

Informing department: Product safety

1.4 Emergency Phone number: Poison Emergency Berlin / Charité University Medicine Berlin
Web: www.giftnotruf.charite.de; Phone: +49(0) 30 / 19240
Poison Emergency Munich / Department of Clinical Toxicology
Web: www.toxikologie.mri.tum.de; Phone: +49(0) 89 / 19240

2 Hazards identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EG) Nr. 1272/2008.

2.2 Label elements

Not a hazardous substance or mixture.

2.3 Other hazards

If the PeroLab-INK is exposed to intensive UV (vis) and IR-light, heat is produced by PeroLab nanoparticles (background: Photo-thermal Effect), which can induce ignition of the dispersion media. At higher temperatures steam can be produced by irradiation. In case of using a closed bottle, pressure could increase by irradiation (gas/steam formation). The maximum generated temperature by irradiation with an IR-source, i.e. a laser, is depending on the energy density, wavelength of the light source and concentration of PeroLab nanoparticles. With high intensive IR light sources temperatures > 200 °C can be generated, which could decompose the organic components. If the dispersion media will be removed, PeroLab nanoparticles are released. High reactive, unprotected (without the presence of an additive) PeroLab nanoparticles could also induce self-ignition under air atmosphere (oxidation process). This product contains a stabilizing agent, which partially protects against oxidation. The self-ignition is proofed and not observed for this sample.



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There are no known substances in concentrations of $\geq 0,1\%$, which are the criteria for the classification as PBT, vPvB or have endocrine disrupting properties.

3 Composition/information on ingredients

3.1 Substances

This product is a mixture.

3.2 Mixtures

Component	CAS-No	EC-No	Weight %	CLP Classification - Regulation (EC)
Methyl ester oil	n.a.	n.a.	≥ 80	-
Organic Additive	Not known	Not known	≤ 10	-
Lanthanhexaborid (LaB6) Nanoparticles	12008-21-8	234-531-6	≤ 10	-

4 First aid measures

4.1 Description of first aid measures

Eye contact

Rinse the affected eye with widely spread lids for 15 minutes under running water whilst protecting the unimpaired eye. If irritation occurs, arrange medical treatment.

Skin contact

Remove contaminated clothing while protecting yourself. Rinse the affected skin areas for at least 10 to 20 minutes under running water and use any available soap/detergent to wipe out. Under no circumstances should alcohol, gasoline or other solvents be used. If irritation occurs, arrange for medical treatment.

Inhalation

Whilst protecting yourself remove the casualty from the hazardous area and take him to the fresh air. Lay the casualty down in a quiet place and protect him against hypothermia. If irritation occurs, arrange medical treatment.

Swallow

Do NOT induce vomiting. Arrange medical treatment or call poison control center immediately. Never give anything by mouth to an unconscious person.

Self-Protection of the First Aider

Make sure, that medical personal or first-aiders are well informed about the involved substances/compounds and their possible reaction products, including their own personal protective equipment and the appropriate actions to avoid any possible spread of contamination

4.2 Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.



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5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Sand, Carbon dioxide(CO₂), dry chemical, water spray

5.2 Special hazards arising from the substance or mixture

In the case of fire hazardous substances can be released. Here: formation of lanthanum oxides, boronoxide

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Wear personal protective equipment. Do not breathe vapors/mist/gas. Afterwards ventilate area and wash spill site. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewer, ditches and waterways. Local authorities should be advised if significant spillages could not be contained.

6.3 Methods and material for containment and cleaning up

Use protective equipment while cleaning if necessary. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations. Use clean non-sparking tools to collect absorbed material.

6.4 Reference to other sections

Refer to protective measures and disposal listed in sections 7, 8 and 13.

7 Handling and storage

7.1 Precautions for safe handling

Advice for safe handling

Do not leave the container open and clearly label it. Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothes. Do not ingest or inhale. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuff. Do not eat, drink or smoke when using. Remove contaminated clothing and wash before reuse. Wash hands before breaks and at the end of work.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and containers

Store containers tightly closed, clearly and permanently labeled, in a dry and well-ventilated place. Recommended storage temperature: +5 till +20°C (max. 25°C). Use breakable containers only up to 2 litres content. Store smaller vessels in cabinets with collection tubes. Store apart from sources of light, ignition and heat. Protect from overheating/heating up.



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Storage class

10-13

Only substances of the same storage class should be stored together and not with substances with which hazardous chemical reactions are possible.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2, no further specific uses are stipulated.

Inoperational use:

The PeroLab-INK should be protected against UV and IR radiation before usage, because agglomerations can be formed. Therefore, instable ink could be formed. Additionally, the protection against UV and IR radiation prevent the formation of high temperatures and gases. It is recommended to treat the dispersion with ultra sonication before usage to desagglomerate the nanoparticles. If the PeroLab-INK should mixed with polymers, the solvent should be removed during/after mixing. Otherwise the coating/compounding will be more inhomogeneous. It is also recommended to use a stabilizing agent to protect PeroLab nanoparticles against oxidation. In this ink, the organic additive largely protects against agglomeration and oxidation.

8 Exposure controls/personal protection

8.1 Control parameters

The general dust limit value (AGSW) according to TRGS 900 must be observed.

8.2 Exposure controls

Technical protective measures

Observe the general requirements of the Hazardous Substances Ordinance when handling hazardous substances, avoid the release of substance.

Personal protective equipment

Eye protection

Safety glasses with side-shields (European standard - EN 166). Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection

The use of resistant protective gloves is recommended.

Skin protection cremes do not protect as effectively against the substance as protective gloves.

Skin and body protection

Suitable protective clothing or chemical protective clothing, depending on the hazard.

Respiratory protection

In an emergency (e.g. unintentional release of the substance) respiratory protection must be worn. Consider the maximum period for wear.

Environmental exposure controls

No special environmental protection measures required.

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Color: green

Form: liquid



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Odor:	no data available
Odor threshold:	no data available
PH:	no data available
Melting point/range:	no data available
Boiling point/range:	no data available
Flash point	no data available
Evaporation rate:	no data available
Flammability (solid, gas):	no data available
Explosion limit (lower/upper):	no data available
Vapor pressure:	no data available
Vapor density:	no data available
Density:	no data available
Relative vapour density:	no data available
Ignition Temperature:	no data available
Water solubility:	no data available
Solubility in other solvents:	no data available
Partition coefficient (n-Octanol/water):	no data available
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
Viscosity:	no data available
Explosive properties:	no data available
Oxidizing Properties:	no data available

10 Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Keep away from open flames, hot surface and sources of ignition.

10.5 Incompatible materials

Strong acids, strong bases, strong oxidizing agents, reducing agent.

10.6 Hazardous decomposition products

In the case of fire hazardous substances can be released. Here: formation of lanthanum oxides, boronoxide

11 Toxicological information

11.1 Information on toxicological effects

Product information

Acute oral, dermal or

inhalative toxicity:

no information available

Skin corrosion/irritation:

no information available

Serious eye damage/irritation:

no information available



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Respiratory or skin sensitization:	no information available
Germ cell mutagenicity:	no information available
Carcinogenicity:	no information available
Reproductive toxicity:	no information available
Specific target organ toxicity – single and repeated exposure:	no information available
Aspiration hazard:	no information available
Additional Information:	no information available

12 Ecological information

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT- und vPvB

There are no known substances in concentrations of $\geq 0,1\%$, which are the criteria for the classification as PBT, vPvB or have endocrine disrupting properties.

12.6 Other adverse effects

No information available.

13 Disposal considerations

13.1 Waste treatment methods

Product

If recycling is not possible, waste must be disposed of in compliance with local official regulations. Discuss the exact waste code with the disposal company.

Contaminated packaging and waste

All products should be collected separately. Collection vessels must be clearly labelled with a systematic description of their contents. Store the vessels in a well-ventilated location. Dispose of in compliance with local official regulations.

14 Transport information

14.1 UN number (ADR, IMDG/IMO, IATA) not regulated

14.2 UN proper shipping name
(ADR, IMDG/IMO, IATA) not regulated



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14.3 Transport hazard class(es)

(ADR, IMDG/IMO, IATA)

not regulated

14.4 Packing group (ADR, IMDG/IMO, IATA)

not regulated

14.5 Environmental hazards

no hazards identified

14.6 Special precautions for user

no special precautions required

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC-Code

not regulated, packaged goods

15 Regulatory information

15.1 Safety, health and environment regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

National Regulations

Water hazard class

no data available

Reference to technical rules for hazardous substances (TRGS)

Protective measures according to TRGS 500

Storage class according to TRGS 509 and TRGS 510

15.2 Chemical safety assessment

A chemical safety assessment has not been conducted.

16 Other information

Abbreviations and acronyms you can find on www.wikipedia.com

Department issuing data sheet

Department of Health, Safety and Environment

Key literature references and sources for data

ECHA Database

GESTIS Substance Database

REACH Regulation (EC) No. 1907/2006

CLP Regulation (EC) No. 1272/2008

Supplier Safety Data Sheet

Disclaimer

The information is based on our current level of knowledge and is used to ensure that describe the product in terms of the safety precautions to be taken. They provide does not represent a guarantee of the properties of the product described.